School of Education

UpdatED

AUSTRALIA ECU EDITH COWAN UNIVERSITY

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RESEARCH HIGHLIGHTS

- Grit or quit? How to help your child develop resilience
- Principals' perceptions of the teaching and learning of science, technology, engineering and mathematics (STEM)

FEATURED ARTICLE

- Dismiss median ATAR as indicator of school performance and increase course participation

From the Executive Dean

It is my pleasure to share the first edition of UpdatED 2023 with you.

[Professor Caroline Mansfield]
Executive Dean, School of Education.

As an ECU alumnus, I am privileged to have the opportunity to lead a team of inspirational and passionate educators. Starting in this role in February, over the past 4 weeks, I have met staff, students, and partners, who are living their commitment to excellence and equity, united by the shared goal of creating an education system that enables the success and flourishing of all students.

The articles in this edition reflect that commitment by offering insights into some of the current challenges and opportunities that face us as educators. I hope there are some research findings that are helpful in the important work you do. In 2023, the School of Education looks forward to a continued commitment to excellence in teacher education and research. We also look forward to strengthening partnerships to enhance educational opportunities for teachers and students.

School of Education **honors top-performing students with prestigious awards**

Each year, the School of Education celebrates the achievements of our most outstanding students through the awarding of a range of prizes and awards. Each year the School of Education recognises its high achievers through the Executive Dean's Student Awards.

This prestigious award is given to the top 1% of students graduating in the calendar year from an undergraduate OR postgraduate course with all units contributing to the completion of that course.

These awards are only made possible through the generosity of our industry partners, private donors, members of the public, past staff, alumni and various foundations.

Stephen Heath Photography

To view the recipients of these awards for 2022, please visit our website. https://www.ecu.edu.au/schools/education/news-and-events/soe/2022/12/2022-school-of-education-research-award-winners

Thank you to our sponsors:

Grit or quit? How to help your child develop resilience

Dr Sarah Jefferson, Senior Lecturer, School of Education.

Grit. Don't quit.

That's the mantra many parents may have in mind when they, like me, spend what feels like years ferrying children to a seemingly endless variety of sports and activities. From enduring sheets of almost vertical icy rain while cheering them on a hockey pitch, to obscenely early morning starts for rowing, I can happily say my own grit and resilience has been tested to its upper limits. But what about the children's?

When it comes to grit, resilience and kids sport, the question around their enrolment, ongoing participation and right to quit is often the topic of much conversation – and consternation. As parents, what should we do when kids announce, often mid-season, they want to "take a break" or quit altogether?

As a parent and educator this raises the question of that invisible line we often tread about how much to push them, when to let them take a break and when it's OK to just let them quit.

Grit matters.

More than mere buzzwords, the terms grit and resilience have themselves been the subject of extensive research. US-based researcher Angela Duckworth has defined grit as "perseverance and passion for long-term goal", saying it involves

> *Working strenuously towards challenged, maintaining effort and interest over years despite failure, adversity, and plateaus in progress.*

Grit has been associated with growth mindset, satisfaction and a sense of belonging.

One US study found:

> *perseverance of effort predicted greater academic adjustment, college grade point average, college satisfaction, sense of belonging, faculty–student interactions, and intent to persist, while it was inversely related to intent to change majors.*

A study of children coping with reading disorders found:

> *strong evidence that grit and resilience is significantly related to mental health, academic success, and quality of life.*

Duckworth suggests resilience is a component of grit but there are other models, too.

> *For instance, Special Air Service Regiment (SAS) veterans Dan Pronk, Ben Pronk and Tim Curtis (authors of the book, The Resilience Shield) propose groups of resilience factors as a series "layers" (such as a professional layer, a social layer, and an adaptation layer) which interact with each other. They note the challenge of defining resilience, referring to it as "an outcome better than expected given the adversity being faced".*

Giving grit a chance to grow.

As adults, perhaps we can reflect on experiences we've had in life that have helped build our resilience. But, kids and adolescents are still developing grit and the ability to work strenuously towards a goal. Their brains are undergoing significant developmental changes.

My research has a focus on teacher education and what helps teachers stick with a career that can occasionally be extremely challenging. Learning to help children and adolescents navigate challenging situations and being able to cultivate your own resilience in the face of trying circumstances is a crucial skill for teachers.

So how do we handle those difficult conversations when kids announce they want to quit a sport or activity?

Firstly, remain neutral and check the temperature of the conversation. Is this a heat-of-the-moment conversation? Right after a big loss or a less-than-stellar piano recital? Good decisions are not usually made in those moments.

Talk to the coach or tutor to figure out what may really be going on. Sometimes the problem can be peer related and again, it is important for kids to learn to navigate those challenges.

All told, when kids announce they want to quit, keep the dialogue open. Listen carefully when they explain their reasons, but talk to your children about grit, too.

Share with them research that compares a growth mindset (which teaches that even when things get hard, we can learn and grow and get better) with a fixed mindset (which posits that either you're good at something or not and there's little room to change). Research suggests having a growth mindset can foster persistence and positive long-term outcomes.

The key is that parents don't teach resilience to children just by telling them about it. It is truly built through experience.

Credit: Perevalov Alexey/shutterstock.com

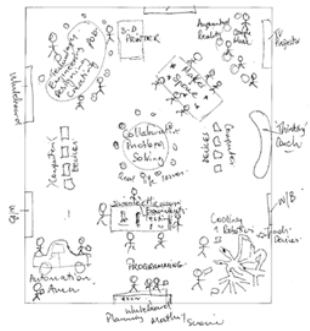
Principals' perceptions of the teaching and learning of science, technology, engineering and mathematics (STEM)

Dr Vesife Hatisaru, Lecturer, School of Education.

Within the 'Principals as STEM Leaders – Building the Evidence Base for Improved STEM Learning' project, funded by the Australian Government Department of Education, Skills and Employment, and led by the University of Tasmania, we investigated the perceptions of a sample of 21 principals about the teaching and learning of STEM.

The data were collected by using the Draw a STEM Learning Environment (D-STEM) instrument – a multimodal research instrument combining drawing and text (Hatisaru et al., 2020, pp. 23–4). The first page of D-STEM provides a rectangular area in which participants are asked to draw: Think about the teachers of STEM and kinds of things they do. Draw a STEM learning environment. The second page provides an open-ended item which asks participants to explain their drawings (figures 1 and 2 capture example responses).

Figure 1: P1 – drawing and description of a STEM learning environment



Student work: Collaborative environment for planning, designing, creating, problem solving and coming up with creative and innovative solutions. Teachers: Create provocation for students to engage & explore. Explicitly teach foundation skills in science, maths, literacy, technology, engineering (computational thinking). Provide the condition for collaboration. Scaffold student thinking to be creative problem solver. Tools: Range of tools/devices to do the above.

Figure 2: P8 – drawing and description of a STEM learning environment

My picture is about opening up students' minds beyond our school gate looking at the impact that we are having our environment. Questioning our current practices and challenge them with new thinking. Teacher: provides a space/environment where they can question, learn new technologies/information, provide challenges/issues to explore. Students: working together in groups/ (collaboratively) (communicatively) working through issues, going and finding their own data perhaps working with experts in a special field. Tools-- whatever they need. They can be very resourceful.

Example responses. Credit: bera.ac.uk

What are observed in participants' D-STEM responses?

Integration is key

Eleven participants made references in their D-STEM responses to some level of integration of content and skills from individual STEM subjects. Eight of them referred to learning activities that could require combining knowledge and skills from two or more areas such as Robotics, Coding, Programming or Recycling. There was also the potential for extensive integration in three other responses as one participant (Participant 5) explained:

'The teacher demonstrates how to do a 3D print of the Eiffel Tower. One student uses a drone to film this and project on a screen … A girl has programmed a new robot.'

Make it real

For ten participants, it was evident that the learning should be useful for students in their lives beyond the school gate. One participant (Participant 14) described how important it is to appeal to students' curiosity by getting them stuck into learning about what makes things work:

'There is a makerspace with real tools as well as other materials to build prototypes. There is a breaker space where students can pull apart old computers, bikes, etc. to learn how things work and then repurpose these parts.'

One participant (Participant 20) highlighted the usefulness of 'a kitchen/garden program' which is ideal for linking learning through STEM activities enacted through gardening or cooking. For Participant 13, the power of drawing upon young people's personal experience is immense:

'The environment features significantly including the outdoors. Construction, cooking, other project-based activities, real-life contexts ensure STEM learning is applied to the child's world.'

Get them working together

A context in which students are interacting and working together to find solutions to problems or running investigations was evident in the drawings and descriptions of almost all participants. Three responses included more specific reference to the collaborative nature of STEM – students working in teams, with each member taking on specific roles and responsibilities.

As Participant 5 described:

'[Students] are all working separately on aspects of one topic/project (such as sustainability) to add to the body of knowledge & learning.'

Get the community and industry involved

Sometimes students were represented outside the classroom working on wicked problems relevant to the world in which they live and beyond into outer space! (see for example Participant 8 in figure 2). The participant's supporting text highlights their perspective on a STEM learning environment as opening students' minds beyond their school gate. They aim to 'make it real', getting students to work together on important issues for the community in an integrated way.

Think about how STEM is best taught and learned

Most of the participants represented contexts in which science inquiry or problem-based learning are implemented. In most responses, both the teacher and students are described as actively engaging in STEM activities. Students are depicted investigating solutions to tasks through designing, testing and revising their ideas, as Participant 3 described:

'21st-century skills: resilience, asks questions, curious, being self-aware, collaborative. Inductive learning: instead of here is the knowledge, now go practice it. Here are some objects, experience, [collect] data – what knowledge can we gain from it?'

Why is the D-STEM research significant?

The provision of effective leadership in STEM education is essential to support teachers to consider approaches to STEM and to carry them out effectively. Principals' perceptions of STEM teaching and learning are significant as they play key roles in convincing the school community that STEM education is important.

The development and trial of the D-STEM instrument itself is significant. The instrument provides evidence in principals' understanding of aspects of effective STEM learning environments including STEM integration, the use of realistic problems, and engaging the community and industry engagement (Hatisaru et al., 2020, p. 25). It initiates rich discussions on the breadth and quality of STEM learning environments, and provides a language by which what counts as STEM education can be explicitly communicated.

Reference

Hatisaru, V., Fraser, S., & Beswick, K. (2020). 'My picture is about opening up students' minds beyond our school gate!' School principals' perceptions of STEM learning environments. Journal of Research in STEM Education, 6(1), 18–38. https://doi.org/10.51355/jstem.2020.79

This article is republished from **BERA (British Educational Research Association)**. Read the original article **here.**

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Calls for five year old students to learn how to protect themselves online

Associate Professor Nicola Johnson, Associate Dean (Research), School of Education.

More children than ever are using the internet, and they're using it younger than ever before. Now, a new report led by ECU has recommended additional consultation around cybersecurity curriculum needs to occur, starting with five year old students.

If Optus, Telstra, and Medibank aren't safe from cybercrime, who is? More children than ever are using the internet, and they're using it younger than ever before. Now, a new report led by Edith Cowan University (ECU) Associate Professor and Security Research Institute (SRI) Deputy Co-Director Dr Nicola Johnson has recommended additional consultation around cybersecurity curriculum needs to occur.

"We need to start early with five-year-olds. We need to get the curriculum 'right' for WA. There is a need to educate people from a young age to protect themselves from common cybersecurity threats," Dr Johnson said.

Cybersecurity curriculum mapping

The Cyber Security Cooperative Research Centre 2022 report determined that WA school children might miss out on learning key cybersecurity skills in the current curriculum.

"Exactly what needs to be taught surrounding cybersecurity needs to be very clear within the curriculum. Teachers need professional learning to help them teach cybersecure behaviour effectively and confidently.

While primary students are taught about the dangers of using the internet and how to be safe online, the report pointed to the vagueness of what is to be covered in the new version of the Australian Curriculum.

"It is only in year 11 and 12 elective subjects that students are taught what is now fundamental aspects of cybersecurity; this is too late," Dr Johnson explained.

In year 11, students completing Computer Science as a part of their WA ATAR are required to learn the role of ethical hacking in network security, penetration testing, encryption, and two-factor authentication.

"There is a strong case for this key knowledge as well as Australian privacy principles and laws to be explicitly taught at much younger ages, given how cyber criminals so quickly and creatively come up with new ways to scam our citizens."

Securing the future of cybersecurity

Australia is experiencing a critical shortfall in the cybersecurity workforce. Recognised by the Federal Government as the fastest growing employment sector with an estimated 17,000 new jobs by 2026, Dr Johnson says more intensive cyber security teaching in schools could ease future shortages.

"By teaching content typically learned in senior secondary to younger children, we can reduce both future job shortages and the enormous cost of cybercrime," Dr Johnson said.

"We acknowledge that for these changes to be implemented, attention needs to be given to resourcing, particularly in regional schools. This can be achieved by further consultation with industry providers and the Australian Cyber Security Centre (ACSC)."

The report was compiled with research from Edith Cowan University staff including Dr Nicola Johnson, Deputy Co-Director of the Security Research Institute (SRI), Associate Professor of Digital Technologies in Education, School of Education, Dr Leslie Sikos, SRI/School of Science, Dr Ahmed Ibrahim, SRI/School of Science, and Dr Cheryl Glowrey, School of Education. The project is supported by the Government of Western Australia, the Office of Digital Government (DGov), under its participation in Cyber Security Cooperative Research Centre (CSCRC). ECU and SRI performs research and development as the CSCRC's research provider.

The work has been supported by the Cyber Security Research Centre Limited whose activities are partially funded by the Australian Government's Cooperative Research Centres Programme.

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Edith Cowan University research finds six-year-olds who put others first have higher self-esteem

Dr Trish Collins, Lecturer, School of Education.

Kids as young as six who put others' needs ahead of their own have higher self-esteem than children who put themselves first, a world-first study has found.

Researchers from Edith Cowan University asked more than 700 six to 12-year-olds from Perth schools to rate their personal values and how they affected their opinions of their own self-worth.

Kids were shown 21 sets of cartoons depicting different personal values and asked which they liked the most and those they liked the least.

Examples included a picture of a child surrounded by treasure with the words "I want to be rich and powerful" contrasted with an image of a child handing over shoes to an elderly homeless man, sub-titled: "I want to help people who have less than me".

Students were then assessed on their overall self-worth and on five personal "competencies": social, academic and athletic competence, behavioural conduct and physical appearance.

"What we found is that even children who prioritise putting themselves before others had lower self-worth, a lower opinion of their physical appearance, social competence and behavioural conduct, including those as young as six years old," ECU early childhood studies lecturer Trish Collins said.

"In contrast, those children who prioritise putting others before themselves had higher overall self-worth."

The study, the first to survey children from the age of six, showed that values related to aspects of self-esteem at an earlier age than previously thought.

> ***If you have the same or similar values to the people around you, then you're going to have higher self-esteem because they're being reinforced.***

Kids as young as six who put others' needs ahead of their own have higher self-esteem than children who put themselves first, a world-first study has found. Credit: The West Australian.

Dr Collins, who worked as a school teacher for 25 years, said the findings were important because they would help teachers to understand how their students' different values shaped their behaviour.

"Personal values are about the motivations behind your behaviour and your attitudes," she said.

"We teach values in schools, but we don't take account of the values children already have."

Dr Collins said the findings reflected earlier research in adults which found that benevolence, or being kind to others, was the value most highly rated by society, while the least-picked was power over people or things.

Example of image shown to children in ECU study of personal values. Credit: The West Australian.

"If you have the same or similar values to the people around you, then you're going to have higher self-esteem because they're being reinforced," she said.

"But if you have quite different values to other people, then they're not going to be reinforced and therefore can be seen as not so good.

"There are 10 core values that everyone in the world actually has — it's just the order you place them in that makes you unique."

Dr Collins said researchers had started studying children's values only recently, because of earlier assumptions they did not have the capacity to choose their own.

This article is republished from **The West Australian**.
Read the original article **here.**

Kindytxt helps WA parents ensure their children are school ready

Professor Lennie Barblett AM, Professor, School of Education.

A new collaborative project by Edith Cowan University (ECU) and the State Library of Western Australia Better Beginnings kindergarten program is seeking to boost the school readiness of WA's children through a program of targeted text messaging. Known as Kindytxt, the program sends parents messages three times a week providing them with home activities to encourage children's language and literacy learning and love of books in a bid to boost school readiness.

The program is the first Australian early childhood literacy-based texting program that is scalable, cost effective, accessible for vulnerable families and incorporates outcome measures.

"What parents and teachers are telling us is that receiving those text alerts have assisted and complimented what schools do to lay the foundations for children's language and literacy learning," said ECU Early Childhood Research Group's Professor Lennie Barblett.

"Parents and carers said the program increased their capacity and confidence for learning in the home and found the activities easy to use and very helpful for the entire family."

Kindytxt was implemented in WA following evidence from numerous American research studies that showed text messages successfully increased school-readiness and family-school engagement in early childhood settings. "As digital technologies are increasingly ever-present, the texting program provides an important new resource for early childhood educators, including parents/carers/librarians and other service providers, to support early literacy and school readiness," Professor Barblett added.
A total of 90 text messages are delivered over 30 weeks during the program. Families were invited to participate through a flyer, which came in the book gifting bag delivered by local librarians to all families with a child attending kindergarten across Western Australia.

The text messages encouraged activities, such as shared reading, storytelling, singing songs and nursery rhymes, paying attention to print, and attending library activities all of which support children to learn about concepts about words, letters, phonological and phonemic awareness.

'Message' effectiveness

Over 1,005 people in WA registered for Kindytxt:

79 library staff, 77 school staff, 849 parent/carers, 85.7 per cent of teachers and 85.1 per cent of librarians indicated they always or mostly read the three Kindytxt messages they received.

"What this says to us is that using text messaging as a way of communicating with busy parents, who make the time to enjoy reading, playing and exploring print with young children to help with preparing for school is a flexible, effective and enjoyable way of making that happen," Professor Barblett said.

ECU's Early Childhood Research Group along with SLWA Better Beginnings are seeking funding to continue the program into 2023 and beyond.

This article is republished from **The Sector**.
Read the original article **here.**

'Little Aussie Bugs' teach children how to be healthy

Dr Amelia Ruscoe, Lecturer, School of Education.

A collaborative effort between Edith Cowan University's Nutrition and Health Innovation Research Institute and Channel 7/Telethon, the 'Little Aussie Bugs' series recently launched a set of four books: 'When We Are Hungry', 'When We Are Sick', 'My Healthy Tummy' and 'My Healthy Teeth'.

This cross-disciplinary team of nutritionists, early years educators, health promotion experts, illustrators and literacy experts developed these new education materials that target building healthy habits during the pre-school years. Quality children's literature designed to support dialogic book talk with children aged two to four years are the central components of the program. Accompanied by notes for educators, the program aims to build healthy habits. Early engagement with simple interactive narratives is known to be effective for supporting young children's oral language competence, enabling socio-emotional growth and regulation and is necessary for the emergence of literacy and language skills.

The Little Aussie Bugs story books feature inclusive characters that appeal to young children, including 'ugly bugs' – detrimental to health, and 'healthy bugs' that promote, for example, gut health.

For further information about the books, email:
littleaussiebugs@ecu.edu.au

Tackling the bullying epidemic: 4 steps for schools and parents

Dr Mandie Shean, Lecturer, School of Education.

Bullying is unfortunately a common problem in Australian schools, with surveys suggesting one in five teenagers are bullied. A 2019 Mission Australia survey found 21% of young people aged 15–19 reported bullying in the past 12 months. Of those who had been bullied, nearly 80% said the bullying took place at school.

More than 70% said the bullying was verbal, 61% said it was social, 36.5% said it was cyberbulling and about 20% said it was physical. However, there is less concrete data about younger children's experiences of bullying. Mandie Shean, a lecturer at Edith Cowan University's School of Education, says one reason is that younger children tend to over-report behaviours that would not be defined as bullying.

"For example, a young child may believe they are being bullied if someone does not want to play with them," Shean wrote in an article recently published in The Conversation.

"Bullying in this age group can also be viewed by some researchers and educators with less concern as it can be incorrectly labelled as a 'normal' part of childhood."

Below, Shean explains four ways that schools can provide evidence-based guidance to parents whose children are being bullied.

1. Make space for your child to tell you

Children need to talk about their experiences of bullying in order for parents to act. However, research indicates they often don't speak out, with one study indicating only 53% of children told their teacher and 67% told their parents they were being bullied. Young people report they don't tell because adult responses are often ineffective, insensitive or excessive.

They also say they fear looking weak, making the situation worse, and that adult support might undermine their sense of autonomy. In one study, children explained the main reason they wouldn't report bullying behaviour was because they "didn't want to be a little nark" [an informer] and lose the approval of their peers. These findings suggest it is important to provide space for your children to talk and to be well equipped to respond when they do.

Listen to your child carefully, ask them what role they would like you to play in solving the problem. Assure them you will handle the situation sensitively and with a view to protect them from further harm. Parents can also praise their children's maturity and strength when they report bullying and reinforce that it is not "telling-tales" or "weak" when someone's safety is at risk.

2. Approach school

While it can be distressing to hear your child has been bullied, it is important to process these feelings before you act so you can be calm. Your first action should be contacting the school to report the bullying. It is not advised to contact the other child's parents directly. This can escalate the issue, break your relationship with the parent, take away your child's power, and the other parents may not act – so it leaves the problem unresolved.

When you contact the school, ask for an investigation of the issue and a response timeline. This approach demonstrates that you are open to other perspectives and not seeking to blame anyone. It also indicates you expect an outcome.

You may also request that your child's identity is not shared to protect them from further retaliation. If there is no response, follow up until there is a resolution. Don't promise your child you won't do something because if your child or another is unsafe, you need to intervene to ensure their safety.

3. Provide your child with skills

Your child can also be better equipped by teaching them emotional and interpersonal skills to help them navigate instances of bullying. These skills include self-regulation, social skills, and problem solving. This can enable your child stay calm and not appear distressed, to be assertive when appropriate, and to consider creative ways of resolving difficult situations.

You can also teach your child safe, practised, and planned responses they can use in instances of bullying. One example of this is "fogging". This is a technique where the child agrees the bully may or may not be correct but does not get defensive and upset. For example, a bully may say "your shirt is ugly". A fogging response would be "you may be right". With this approach the bully is not getting a reaction to their insult and therefore not meeting their need for attention and control.

4. Gather a support crew

Help your child identify safe spaces, peers and adults they can turn to for support. They need to understand that in the middle of the bullying behaviour, they have people they can depend on who care for them. Bullies try to isolate. Your child needs to know they are not alone, they are loved, and they are supported.

This article is republished from **The Educator Australia**. Read the original article **here.**

Most students' writing skills on the decline, but spelling improving – report

Dr Anabela Malpique, Senior Lecturer, School of Education.

The writing skills of Australia's school students have declined over 7 years, with spelling the only metric to buck the trend, new research from the Australian Education Research Organisation (AERO) has found. The AERO researchers reviewed more than 10 million NAPLAN year 3-9 writing results and more than 350 persuasive writing samples from 2011 to 2018. They found that by Year 9, 85% of students were constructing sentences at or below the level expected of Year 7 students, and the majority could only demonstrate punctuation to a level expected of Year 3 students.

"Writing is the foundation skill that students require to understand and communicate what they are learning across all their school subjects, and one of the most important skills in working life," Dr Jenny Donovan, AERO CEO, said;

"We know that teachers want to see their students achieve their full potential. If our teachers are given time, access to good resources and the opportunity to build confidence, I am certain they will adopt evidence-based practices that will support students to improve their writing."

Dr Donovan said more support must be given to teachers to identify best practice in literacy education.

"This isn't about increasing the workload on our already stretched teachers, but assisting them to expand on what has been proven to work in improving student writing, while stopping what has little or no evidence of benefit," Dr Donovan said.

"AERO has already published several targeted, evidence-based resources to assist teachers with improving their students' writing skills. We are developing even more to address the findings of this report."

The report's recommendations include elevating the importance of the teaching and learning of writing across the curriculum in schools; ensuring teachers are aware of their students' actual writing development and achievements, when planning for teaching; and increasing teacher access to evidence-based resources on best practice approaches to teaching writing.

More professional learning needed

Another recent study found that while most teachers feel well prepared and confident in their abilities to teach writing, less are confident in developing teaching practices to support struggling writers in their classrooms.

"Historically, writing has been studied from different theoretical approaches and fields making it difficult to understand what we meant when talking about good writing and teaching writing," the report's chief investigator, Dr Anabela Malpique, a Senior Lecturer in Literacy at the School of Education at Edith Cowan University's School of Education, told The Educator.

"In the last 10 years, research has been expanding as we try to learn more about what effective writing instruction looks like across the globe. We do know that writing is a very complex skill, that can take potentially 20 years to master, and that it needs explicit instruction."

Dr Malpique Teaching said writing is a complex job since it involves the teaching of many different sub-skills – namely foundational (such as handwriting, typing and spelling) and process skills (planning and revising texts).

"Having that in mind, school leaders should start by promoting a community in which writing (and the teaching of writing) is valued."

"This includes offering opportunities for teachers to develop their knowledge about evidence-based practices for writing instruction, and having teachers engaged in sharing their best practices with each other."

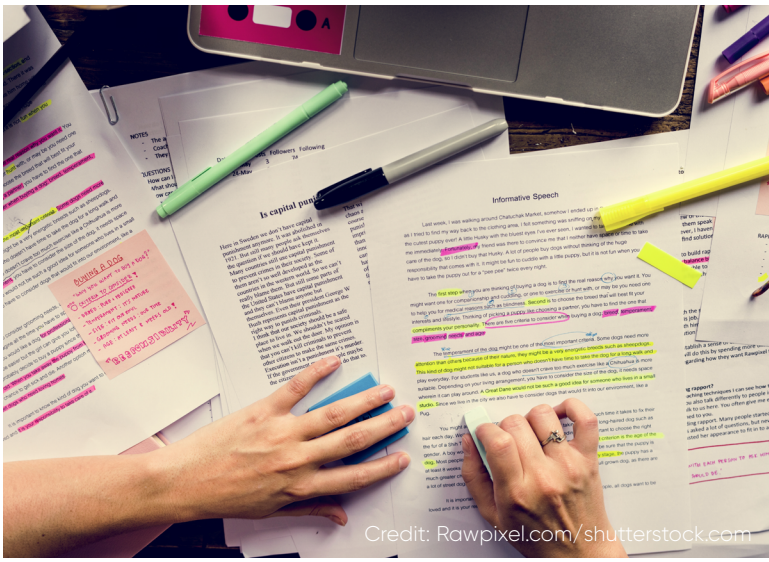
Dr Malpique said principals can also promote ways in which universities and schools can work together and share best-practices for writing instruction, as well as promote ways in which teachers and parents work collaboratively to support children's writing development.

To address the issue more broadly, Dr Malpique recommends that professional development opportunities be put in place at state and national levels that equip teachers with evidence-informed writing and keyboarding tools for teaching.

"While there are number of evidence-based practices and recommendations for teaching writing, there's no perfect model for teaching writing, no one-size fits all program," she noted.

"That makes writing instruction quite challenging."

This article is republished from **The Educator Australia**. Read the original article **here.**



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ECU Pre-Service Teacher publishes manuscript in practical literacy education journal

Keyan Robertson, student, School of Education.

Congratulations to Keyan Robertson, an ECU primary Pre-Service Teacher, who was recently published in Practical Literacy in Early and Primary Years, a journal by the Australian Literacy Educators Association.

The Abstract from Keyan's article reads:

'Books can be both mirrors and windows', by investigating this statement, acknowledgment can be given to the vital importance of engaging students in a diverse range of children's literature within the classroom. The purpose is to develop children into accepting, empathetic, compassionate and prosocial members of the community, who strive to achieve self-actualisation (Maslow, 1943; McMillan and Chavis, 1986). Literature is constructed on the foundations of historical, social and cultural contexts, traditionally, biased and persuaded by the political and social views of its time (McDonald, 2018).

Robertson, K. (2022). Celebrating the work of pre-service teachers. Practical Literacy: The Early and Primary Years, 27(3), 38-41. If you would like to access the full article, then please visit **here.**

Bone and Joint Literacy In the Australian Curriculum

Credit: Sergey Nivens/shutterstock.com

By Dr Julie Boston, Marg Miller & Prof Amanda Devine.
Nutrition and Health Innovation and Research Institute, Edith Cowan University.

A recent mapping of the Australian K-10 curriculum revealed there is scant reference to the concepts underpinning the achievement of the knowledge, understanding and skills relating to bone and joint literacy outcomes in a cohesive and age-appropriate manner. This is not to say that Australian educators do not address various health literacy outcomes - far from it!

However, the curriculum is disjointed from a bone literacy perspective [pardon the pun]. For example, it is common for younger children to hold the scientific misconception that bones are inert and not living tissue. In addition, many older students do not understand that once the skeleton is fully developed, typically around the mid-twenties, it begins to decline in bone mass.

Key bone and joint literacy messages must be offered at various touchpoints to school-aged children, including:

- How specific exercises can strengthen bones;
- How keeping active and eating a healthy diet including Calcium, Vitamin D and protein;
- Avoiding smoking; and
- Maintaining a healthy weight and limiting alcohol in adulthood.

These are excellent ways to slow down the loss of bone mass and prevent progression to more serious conditions like osteopenia or osteoporosis.

The foundations for strong bone and joint health commence in childhood and are especially important in adolescence. In designing new bone and joint literacy resources or programs, it is vital to consider contemporary teaching and learning principles. The current Australian Health and Physical Education K-10 curriculum is informed by a strengths-based approach, allowing educators to focus on what students are doing well to keep themselves healthy and safe. It has moved from a deficit teaching model to a learner-centred approach. Bone and joint literacy teaching approaches should then focus on assisting students in identifying the skills and capacities needed to move towards positive outcomes.

Contemporary teaching and learning approaches should also recognise that students already have varying levels of personal and community resources and take account of contextual factors that may influence their students' decisions and behaviours (ACARA, version 8.4).

Most Australian students today have unprecedented access to a range of technology devices, including computers, smartphones, and tablets . Ironically, a recent scoping review undertaken by our team regarding digital educational bone and joint health resources applicable for children 8-18 years revealed a distinct lack of engaging, immersive and contemporary online programs. The growing appeal of digital games is increasingly being explored as promising learning tools to promote health education concepts and messages to students. A well-designed bone and joint digital game could provide meaningful active learning and entertainment, where learning occurs through game play that engages the learner in challenges adapted to their age-appropriate skills. By engaging in a virtual world, the player could gain experiences and skills that can later shape behavioural patterns that positively influence bone and joint health outcomes. Perhaps this is an avenue worth exploring to help improve the bone and joint health of Australians in the long term.

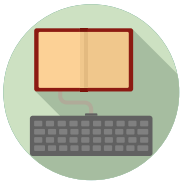
This article is republished from **Arthritis & Osteoporosis WA**.
Read the original article **here.**

Research in the School of Education

Written by School of Education academics, please find below a selection of recently published articles which are available to you without any subscriptions.

Associate Professor Nicola Johnson, Associate Dean (Research).

In this edition, we emphasise recently conducted ECU research about reading, writing and numeracy, and mathematical connections, from across early learning, primary and secondary contexts. Please click on these links to these journal articles which are all freely available. Find out more at https://www.ecu.edu.au/schools/education/research-activity



This article highlights patterns of male and female student achievement in NAPLAN from 2008 – 2021.

Thomas, D.P., Hopwood, B., Hatisaru, V., & Hicks, D. (2022). Gender differences in reading and numeracy achievement across the school years. The Australian Educational Researcher. https://doi.org/10.1007/s13384-022-00583-8

This article presents results from a national sample of teachers surrounding the ways they teach writing and their self-efficacy to do so.

Malpique, de A. A., Valcan, D., Pino-Pasternak, D., S. Ledger (2022). Teaching writing in primary education (grades 1–6) in Australia: a national survey. Reading and Writing. https://doi.org/10.1007/s11145-022-10294-2

The article is about approaches utilised to teach reading to those who have learning difficulties and the confidence in and feasibility of these approaches.

Serry, T., Snow, P., Hammond, L., McLean, E., & McCormack, J. (2022). Educators' perspectives about teaching and supporting students with learning difficulties in reading. Australian Journal of Education, 0(0). https://doi.org/10.1177/00049441221130551

This article explores the impact of teachers' mathematical knowledge for teaching upon mathematical connections made at year 9.

Hatisaru, V. (2022). Mathematical connections established in the teaching of functions. Teaching Mathematics and its Applications: An International Journal of the IMA. https://doi.org/10.1093/teamat/hrac013

This article focuses on how a small group of teachers go about assessing writing in years one and two.

Mariano, E., Campbell-Evans, G. & Hunter, J. (2022). Writing assessment in early primary classrooms: Thoughts from four teachers. Australian Journal of Language and Literacy. https://doi.org/10.1007/s44020-022-00007-1

Dismiss Median ATAR as indicator of school performance and increase course participation

Dr Lyn Vernon, Senior Research Fellow, School of Education.

The decision by education authorities to neither compile nor publish the median ATAR score was sound and based upon mathematically justifiable reasoning. This decision resulted in media outlets being unable to publish the median ATAR league tables where the schools are ranked solely on median ATAR performance. The absence of rankings resulted in reduced comparisons and unfair expectations placed on schools and students, all of which contribute to a high-pressure and stressful learning environment.

The median is a measure of central tendency and represents a datasets **middle** value when scores are ordered from least to greatest. It can be useful, over an average, because it may not be affected by extreme values or outliers. However, comparing median scores from year-to-year requires a stable population size with a similar spread of scores each year, and this has not occurred in WA.

Over time our ATAR population in WA has declined, and students at the lower end of the rankings have been removed. In 2016 we had 13540 students doing ATAR, yet in 2022 the ATAR cohort comprised 9643 students, a drop of 3897 students. WA's participation rate dropped to 31%, whereas most other Australian states are above 50%. One reason for WA's low participation rate relates to the role of the published school median ATAR league tables.

Schools that ranked high on these tables were considered to have performed well and celebrated their successes within the media and school community. On the other hand, schools that ranked low were perceived to have performed poorly, significantly impacting a school's reputation and influencing where parents chose to send their children.

There is no doubt that schools and teachers want the best for their students. However, to boost their reputation, many secondary schools included, in their strategic business plans, a goal to increase their school's median ATAR score. One strategy to achieve this goal is to remove students with lower scores from an ATAR pathway.

For example, suppose a WA secondary school has 11 Year 11 ATAR students - their projected ATARs are 55, 65, 66, 67, 69, **72**, 75, 82, 89, 90, and 91, and the median ATAR equals **72**. However, they want to improve their ranking. Therefore, four students with the lowest scores drop their ATAR pathway, and the median score moves to **82** (~~55, 65, 66, 67~~, 69, 72, 75, **82**, 89, 90, and 91); however, the ATAR population declines by over 30%.

The Year 11 student that was removed scored; English=50, Human Biology=50, Mathematics Applications=55 and Physical Education Studies=55 with a predicted median ATAR score of 66.05 (https://wace.atarcalc.com/#{}). They performed well on 50% of the content. Nevertheless, they are counselled out of an ATAR pathway, and their university aspirations decline.

When schools keep Year-11 students in ATAR pathways with a 66.05 it reinforces their belief in themselves to aspire to go to university. Often, students improve through Year 12 and can easily reach an ATAR of 70, the average university entry score for most courses in WA (UWA starts at 75). If students can enter university with an ATAR of 70, why do schools set a goal to reach a median above 70? One explanation is that a published median ATAR of 70 means they are ranked lower on the published league tables, and the school's reputation is at risk.

Unfortunately, when students do not participate in ATAR, their career opportunities are delayed. If students achieve a near-miss ATAR between 60 to 69.5, they can participate in pre-semester, accelerated university preparation programs to start their courses with their peers. Otherwise, non-ATAR students who want a professional career are required to enrol in university preparation programs. However, although minimal in cost, the time to complete them extends the length of their tertiary study. For students from disadvantaged backgrounds, this can be financially crippling as it results in a longer time to degree completion and delays entry into the workforce. Notably, students with an ATAR score have increased opportunities for social mobility, and employment opportunities.

Although ATAR in Year 12 may create anxiety, students can become resilient with peer and school support. Research shows ATAR participation results in better outcomes during university. (See https://www.ncsehe.edu.au/publications/equity-implications-non-atar-pathways-participation-outcomes-experience/).

Undoubtedly, the declining pipeline from school to university can impact the future workforce and the overall competitiveness and innovation required for our social and economic development. At a minimum, our universities require a pipeline of students into our Bachelor of Education courses so we can continue to supply teachers to educate the next generation of students. A welcome focus in the next round of strategic planning for secondary schools should be to dismiss the median ATAR as a valid indicator of school performance and increase the participation of students in ATAR courses.

This article is republished from **The West Australian**.
Read the original article **here.**

Credit: panitanphoto/shutterstock.com

UNDERSTANDING CHILDHOOD TRAUMA: AN INTRODUCTION FOR EDUCATORS

AN ONLINE SHORT COURSE FOR EDUCATORS

Trauma-affected children can be found in any classroom and any school. In fact, one in four children experience a traumatic event before they turn three years old*. Trauma impacts development, behaviour and learning.

This short course is an ideal introduction to childhood trauma for all educators including parents, carers, and youth workers. Providing effective support for children and young people affected by trauma begins with educators who are trauma-informed. By building your understanding and knowledge you have a better chance of making a positive difference.

The course is entirely online and self-paced, taking approximately 9 hours to complete.
Enrol at anytime!

COST AND INCLUSIONS

- $161 to undertake the course which includes all reading materials, case studies and online activities.
- 10% discount is offered to ECU alumni and for multiple bookings from the same organisation. Contact education_shortcourses@ecu.edu.au to obtain a discount coupon prior to using the online payment system and to obtain an invoice for group bookings.

MORE INFORMATION

www.ecu.edu.au/short-courses/education/childhood-trauma

*Creating Supportive Environments for Children Who have had Exposure to Traumatic Events. J Child Fam Stud 26, 2728–2741 (2017)

REGISTER HERE

Information contained in this flyer was correct at the time of printing and may be subject to change. CRICOS IPC 00279B | Version SoE Trauma 09.03.23

School of Education

AUSTRALIA ECU EDITH COWAN UNIVERSITY

Future Research & Career Pathway

Become part of a team that leads, initiates and sustains high quality research that effectively addresses pertinent issues faced by learners and educators both within and beyond educational settings.

Dr Lyn Vernon

Senior Research Fellow,
School of Education.

Dr Lynette (Lyn) Vernon was raised on a farm in Mt Barker, where she went to school and became the first in her family to attend university. Despite the challenges of moving to the city and being a first-generation student, Lyn completed her Bachelor of Science at UWA and her Diploma in Education at Edith Cowan University. She taught for the Department of Education for over 20 years, working in metropolitan and regional schools, and also completed her Graduate Diploma in Psychology at Charles Sturt University whilst teaching. Lyn has worked across primary and secondary schools and education support facilities and is presently engaged in teaching strategies for managing classroom behaviour to undergraduate Pre-Service Teachers. In her leadership roles, Lyn has promoted best practices across the entire educational community, including teaching and non-teaching and professional and academic staff. She has also worked as an education officer with an external agency supporting students in care.

While teaching in Kalgoorlie, Lyn noticed tired and distracted students, which led her to conceptualize her PhD research on the negative impact of technology on adolescents' sleep quality and wellbeing. Her research has been globally recognized, including her work on mobile phones and sleep.

As a Vice-Chancellor's Research Fellow at Edith Cowan University, based in the south west she leads research into the wellbeing of students and how the support provided by educational institutions impacts them during periods of disruption. Lyn's research focuses on exploring the effects of disadvantage on young individuals' social and emotional wellbeing and how social institutions, such as schools and universities, can provide support to enhance young people's academic aspirations and wellbeing. She is particularly proud of her management and direction of a federally funded, four-year equity project, which aimed to support students' aspirations to higher education, including encouraging and supporting students in rural regions to pursue higher education. Lyn's research has important implications for healthy development across the lifespan and is relevant for parents, teachers, and psychologists. Lyn welcomes inquiries from educators and academics who are interested in conducting research, particularly using a quantitative methodology, related to supporting students' aspirations and wellbeing. Please contact Dr Vernon to discuss potential collaborations or research projects.

Lyn is currently investigating the following topics with higher-degree research students:

- Sarah Briggs – Exploring the application of a STEM Practices Framework to develop primary school teachers' pedagogical content knowledge for mathematics teaching.
- Anna Griffin – Cyber security education in Australia – Does it meet the mark?
- Marnie Harris - Regional, Rural and Remote: Examining the enablers and barriers that a professional experience presents for the primary Pre-Service Teacher.
- Stephanie Milford - Parents' knowledge, understanding and mediation practices of digital device use among children.
- Kirsten Roberts - It all adds up: Measuring the effectiveness of small group peer-teaching to reduce mathematics teaching anxiety in Pre-Service Teachers. *

*Proposed thesis title.

Chris Clark

Recent Master of Education by Research Graduate

About yourself:

My name is Chris Clark and I am currently the Curriculum Manager for Health and Physical Education at the Victorian Curriculum and Assessment Authority (VCAA). My role is responsible for supporting schools, teachers and students in the implementation of the curriculum from Foundation to Year 12. Prior to this role I spent 15+ years as a secondary PE teacher in Australia and the UK, with a particular interest in senior secondary (VCE) Physical Education. Most importantly at the moment, I am taking a period of part time leave to be a stay at home parent for our 1 year old son - a job that is just as demanding (& rewarding) as my usual day job!

Why did you choose ECU to do your Master of Education?

I was lucky enough to have ECU and in particular, Professor Dawn Penney, recommended to me by a colleague who connected us. I then was even more fortunate that Dawn and Dr Andrew Jones agreed to work with me. I was naive at the time and didn't know just how influential and impactful that Dawn has been in the Health and Physical Education curriculum space, both in Australia and Internationally. However, this soon became apparent and provided me with added impetus to complete research that could make a difference to an area we are both passionate about.

How did studying online work for you?

Given my study was part time and the tyranny of distance across the country to Melbourne, I didn't have the option of studying face to face. Interestingly, I began the Master of Education pre COVID, which at the time, meant, I had barely (if at all) had an online Zoom meeting before needing to have them regularly with Dawn and Andy. Little did I know at the time, that they would become a daily feature of most people's work!

What have you enjoyed the most?

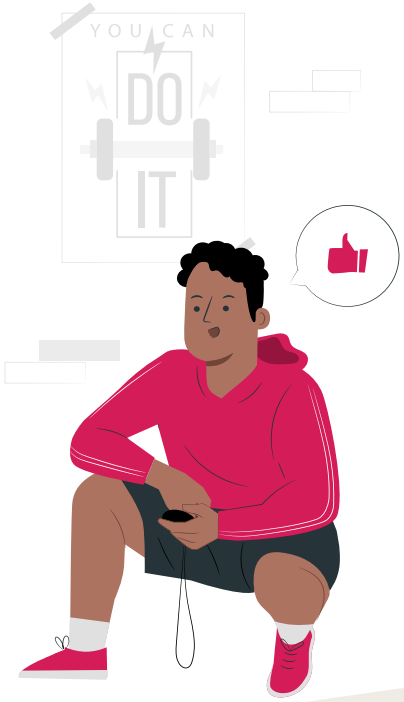
Perhaps not surprisingly, I enjoyed the reading and associated scholarship that came with completing a Master of Research. Prior to embarking on my thesis, I was not a heavy educational reader and this journey helped further my knowledge and broaden my perspectives on Health and Physical Education. I can't thank my supervisors enough for challenging me and pushing me outside my comfort zone, which was enjoyable in itself.

What is the focus of your thesis?

My thesis (Exploring Teachers' Use of Physical Activity in Victorian Certificate of Education (VCE) Senior Secondary Physical Education) set out to explore what influences teachers in their use of physical activity with students in a theoretical-examination subject such as VCE Physical Education. The main findings were that perceived time pressures of getting through the course and a feeling of having to prepare students for the examination, impacted how and when physical activity was used as a legitimate way of knowing and learning. Further, the uniqueness of the thesis was it also explored the construct of gender and what role it played on what activities teachers selected to use with their students and how these were implemented. The motivation and interests of students and their safety (in physical sports) were key considerations identified by teachers in the research that were either directly or indirectly tied to gender. The thesis highlighted an opportunity for further work on how the integration of practical activities with theoretical understanding can be achieved to maximise student engagement in senior secondary physical education. Additionally, the focus on gender and inclusiveness in senior secondary physical education, comes at a time where there is a need to further understand the changing nature of classrooms in Australia and how teachers' pedagogies need to adapt to cater for all students, regardless of their gender.

What is next?

I have been lucky enough that my work with Dawn and Andrew is being translated to published papers. We have finalised one, which we are awaiting approval for publishing and hope to produce a second paper from the thesis. From there, I am interested in pursuing a PhD, provided I can make it work with juggling parenthood. My current role in curriculum management lends itself to identifying issues and needs for our profession and I am motivated to contribute to academia in the field to further opportunities for young people and promote our learning area of HPE.



ECU Education Alumni spotlight:
Kylie Chatfield

Bachelor of Applied Science (Dean's Roll of Excellence)

Graduate Diploma Secondary Education (Science)

For Kylie Chatfield, as is becoming increasingly common, her career path has not always been a linear one. What has remained consistent throughout her career is a passion for the world of marine science.

In a career spanning over 20 years with the Department of Primary Industries and Regional Development, Kylie worked in a variety of roles, spanning from a technical lab-based role to program management and training field responders.

In 2016, Kylie took up a role as the Indian Ocean Territories Community Education Officer, delivering fisheries education programs within local schools, and realised how much she enjoyed educating school aged students.

This led to Kylie enrolling into a postgraduate Secondary Education qualification at ECU. Whilst completing her graduate diploma, Kylie sought an opportunity to complete her final professional experience placement on Christmas Island, and was offered a position as the science teacher on the island straight after graduation.

Over the past few years, Kylie has taught at Christmas Island District High School and was recently recognised for providing exceptional learning opportunities for remote students in the 2022 Commonwealth Bank Teaching Awards. Kylie was named one of 10 winners from across Australia in the Early Career Teacher category.

Kylie has been able to bring her wealth of industry knowledge and practical skills into the classroom to enhance the learning experiences for her students. "I am passionate about marine science education and sharing my experiences from an industry perspective, but also after being in the classroom there is no other job that is as rewarding as observing a student being fully engaged and developing their understanding with your support," she said.

For Kylie, who was already developing and delivering community and schools-based Fisheries education programs prior to studying teaching, her graduate diploma helped connect the dots between her industry knowledge, the school curriculum and how students learn. But it's proven to be more than just a pathway to become a teacher.

"I feel like I am continuously exploring ways to educate students from inside the classroom as their teacher, to outside of the classroom as an industry expert. An education degree is a ticket to so much more as there are many avenues it can take you," she said.

"I've been able to transition between developing and facilitating industry adult training programs, to teaching students in the classroom, to developing industry led schools-based learning programs to initiating collaborations with other schools to developing virtual environmental tours. This just demonstrates the flexibility of a teaching degree."

"My own personal circumstances will see me moving States early next year to re-engage with industry-based Fisheries education programs, but I am already developing projects and collaborations to maintain active connections to WA Education Department and Christmas Island District High School - and who knows what other opportunities I will find!"

THE SCIENCE OF READING: TRANSLATING RESEARCH TO CLASSROOM PRACTICE

A SHORT COURSE FOR EDUCATORS

Have you ever wondered how the human brain translates these squiggles and dots on a page into sounds and spoken words? Part of what we know is that learning to read is a complex neurological process that humans have taken 1000's of year to figure out. Despite this, we expect children to achieve this in the first few years of school.

This three-day course is designed to bridge the gap between research and practice and make explicit how evidencebased models of reading have determined the essential components required for the human brain to efficiently build a reading circuit and for a brain to learn to automatically recognise words.

COST AND INCLUSIONS

- $825 incl. GST to undertake the course which includes all reading materials and case studies
- 10% discount is offered to ECU alumni, and for multiple bookings from the same organisation

COURSE DETAILS

This short course will run on **Saturday 29 April, 20 May** and **17 June 2023.**

ABOUT THE PRESENTER

This course has been written and coordinated by Associate Professor Lorraine Hammond AM and aligns with the EDU6651 Science of Reading unit in the Master of Education course and the Graduate Certificate of Education course at ECU.

REGISTER NOW

Please register online: https://www.ecu.edu.au/short-courses/education
If you have any questions, please contact Dr Julie Boston (+61 8) 6304 5702.

REGISTER ONLINE

"The three days were without doubt the best Professional Learning I have done in recent times. Each session was extremely engaging and helped to bridge the gap between research and practice. I always left feeling motivated to make change happen (and read more) because when we know better, we do better" - Beth Hutchinson

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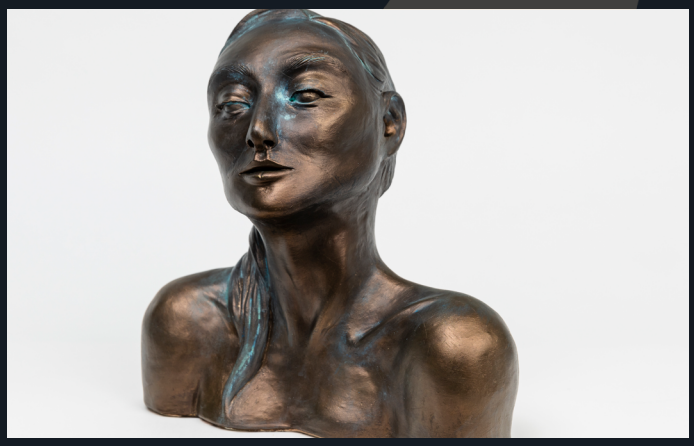
Student SHOWCASE

A selection of some of the recent stunning creative works by Pre-Service Teachers in the fields of Technologies and Art Education.

Stainless Steel Truck
Brock Thompson



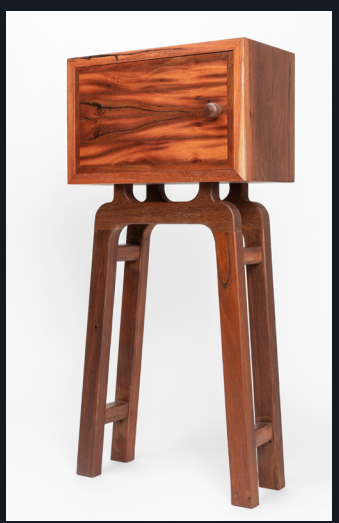
Figurative Bust
Kat Chaplin

Figurative Bust
Danita Burger

Angular Fish Lamp
Daniel Nowrojee

Daisy Cylinder Vase
Kat Chaplin

Organic Pinch Pot
Kat Chaplin



Jarrah Display Cabinet
Dante Gherardi

Figurative Bust
Shaun McGowan

Gold Slumped Candle Holders
Kat Chaplin

All photographs by Steven Heath Photography

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